

~~23. The system of claim 22 wherein the status comprises the web server's page request queue length.~~

24. The system of claim 22 wherein the status comprises the web server's web page request queue delay.

25. The method of claim 20 wherein the step of redirecting is initiated by an agent running on the same host as the web server and in communication with a web server interface, wherein the agent instructs the web server interface to cause the web server to redirect the request.--

REMARKS

Claim Additions and Status

Claims 1-20 are pending in this application. Applicants hereby add claims 21-25. Upon entry of this Amendment and Response, claims 1-25 will be pending, of which three are independent claims (claims 1, 15, and 20), and twenty-two of which are dependent claims. No new matter has been added by the new claims. A check for the fee for the additional claims is enclosed.

Telephone Interview

Applicants thank the Examiner for the telephone interview with Applicants' attorney on November 28, 2000. During the interview Applicants' attorney and the Examiner discussed the pending claims and U.S. Patent No. 6,006,264 to Colby et al. ("Colby"), and U.S. Patent No. 6,101,508 to Wolff ("Wolff"). During the interview, the Examiner indicated that he would withdraw the final rejection based on the combination of Colby and Wolff.

Colby and Wolff

Colby discloses a flow switch through which all web page requests are communicated. The flow switch is a different approach than Applicants' system, at least because Colby has centralized functionality and Applicants' system is distributed. Applicants' web server redirects a browser request "such that the browser requests the web page from the another one of the web servers," whereas with Colby, all traffic passes through the flow switch. The centralized functionality in Colby means that the server that is accessed is transparent to the web client. The Colby flow switch is also a single point of failure.

Wolff is directed towards servers that share access to a central resource, such as a disk farm. Wolff has two modes, active client load balancing, and passive client load balancing. The passive mode is described starting in column 19, line 43:

FIGS. 4C-D show the software modules on the aware client associated with what are defined as passive and active embodiments of client load rebalancing, introduced above in FIG. 1A. FIG. 4C discloses a software module associated with passive client load balancing, while FIG. 4D shows the software modules associated with active client load balancing. Passive load balancing refers to the activities on a client subsequent to the receipt from a utilization server (see FIG. 1A) of a redirect command and, potentially, an alternate path or paths for the I/O request to a file system. Active client load balancing refers to the activities of an aware client, subsequent to the receipt from a utilization server of a redirect command, without any accompanying information as to which path(s) through which to direct subsequent I/O requests for a particular file system.

Passive client load balancing commences in FIG. 4C with the receipt, by redirector module 184, of a redirect command from a utilization server (see FIG. 1A). The command is passed to the load balancer module 190 via the command processing module 192. The receipt of a redirect command, accompanied by a particular path, causes load balancer module 190 to call name driver module 194 and to redirect all future I/O to the requested file system through an alternate server path. The name driver maintains an abstract mapping of network namespace resources which combine all available paths of each file system to each server. In response to the redirect command accompanied by the specific path to the file system, which was the trigger for [sic] the redirect command issuance, the name driver updates its abstract mapping of network namespace, nodes, and resources to reflect the new path (see FIG. 6). Upon receipt of a redirect command without path information, an embodiment of the invention has the aware client in passive load balancing choosing any other valid path for redirection. This is usually done by choosing that path which was least recently redirected, e.g. the oldest redirected path (see FIG. 6).

As Wolff states, the passive mode requires the use of a specially enabled "aware client" (col. 19, line 43).


Applicants note that it would not be obvious to combine Colby and Wolff because they are very different servers, serving different types of data. But, notwithstanding that problem, further consideration of two possible combinations of Colby and Wolff show that neither results in Applicants' claimed invention. A first possible combination involves replacing Wolff's "utilization servers" with Colby flow switches. This would not make sense because the utilization servers all communicate with a single disk farm and therefore there is no need for the

functionality of the Colby flow switch, because the flow switches would be directing all traffic to the same disk farm. A second possible combination involves replacing Colby's web servers with the Wolff utilization servers. Again, this would not make sense because a flow switch would be placed in front of the Wolff servers, which eliminates the need for the aware client functionality, because requests would be intercepted and directed by the Colby flow switch.

CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration of the previously pending claims, consideration of the newly filed claims, withdrawal of the final rejections, and allowance of claims 1-25 in due course. If the Examiner believes that a telephone conference with Applicants' attorney would be helpful, the Examiner is invited to contact the Applicants' attorney at the number below.

Respectfully submitted,



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